

Notice of Allowability

Application No.

09/893,784

Examiner

Gary C. Vieaux

Applicant(s)

KITAGUCHI ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/15/2006.
2. ☒ The allowed claim(s) is/are 23-26, 36-51 (now formally renumbered as claims 1-20).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

5 submitted no later than the payment of the issue fee.

*****Begin Examiner's Amendment*****

Amendment to the Specification

10 The title is amended to read "METHOD OF AND APPARATUS FOR
COMPOSING A SERIES OF PARTIAL IMAGES INTO ONE IMAGE BASED UPON A
CALCULATED AMOUNT OF OVERLAP", which represents a title that is more clearly
indicative of the invention to which the claims are directed.

15 Amendment to the Claims

23. (Currently Amended): An image input apparatus comprising:
a first image pickup unit configured to optically scan a subject and thereby to
acquire an image of the subject;

a recording unit configured to record a series of overlapped partial images
20 selectively acquired by the first image pickup units;

a second image pickup unit configured to continuously pick up a secondary image of the subject that corresponds with a portion of the subject being scanned by the first image pickup unit;

an overlapping amount calculating unit configured to calculate an amount of overlap between images corresponding to potentially recordable partial images being acquired by said first image pickup unit based upon the secondary image picked up by said second image pickup unit;

an image recording determination unit configured to output a recording indicating signal when a current image obtainable from the first image pickup unit is to be recorded as one of the series of overlapped partial images based upon an amount of overlap calculated by the overlapping amount calculating unit; and

a control unit configured to be responsive to the recording indicating signal to automatically cause the recording unit of the current image obtainable from the first image pickup unit recording unit.

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24. (Currently Amended): An image input apparatus comprising:

a first image pickup unit configured to optically scan a subject and thereby to acquire an image of the subject;

a recording unit configured to record a series of overlapped partial images selectively acquired by the first image pickup units;

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a second image pickup unit configured to continuously pick up a secondary image of the subject that corresponds with a portion of the subject being scanned by the first image pickup unit;

5 an overlapping amount calculating unit configured to calculate an amount of overlap between images corresponding to potentially recordable partial images being acquired by said first image pickup unit based upon the secondary image picked up by said second image pickup unit;

a timer configured to count time that has elapsed from when a previous partial image was acquired;

10 an image recording determination unit configured to output a recording indicating signal when a current image obtainable from the first image pickup unit is to be recorded as one of the series of overlapped partial images based on information including an amount of overlap calculated by the overlapping amount calculating unit and the time counted by said timer; and

15 a control unit configured to be responsive to the recording indicating signal to automatically cause the recording unit of the current image obtainable from the first image pickup unit recording unit.

37. (Currently Amended): The image input apparatus according to claim 36,
20 wherein said image recording determination means stops the recording of the partial images when an amount of shift of said first optical scanning and pickup means is determined to be greater than a desired value.

39. (Currently Amended): An image input apparatus comprising:

a first optical scanning and image pickup means for optically scanning a subject to thereby acquire an image of the subject from the first optical scanning and image pickup means;

5 a recording means for recording a series of overlapped partial images selectively acquired by the first optical scanning and pickup means;

a second optical scanning and pickup means for scanning and continuously picking up a secondary image of the subject that corresponds with a portion of the subject being scanned by the first optical scanning and pickup means;

10 an overlapping amount calculating means for calculating an amount of overlap between images corresponding to potentially recordable partial images picked up by said first optical scanning and pickup means based upon the secondary image picked up by said second optical scanning and pickup means;

15 a timer means for counting time that has elapsed from when a previous partial image was acquired;

an image recording determination means for outputting a recording indicating signal when a current image obtainable from the first optical scanning and pickup means can be recorded as one of the series of overlapped partial images based on information including the amount of overlap calculated by the overlapping amount
20 calculating means and the time counted by said timer means;

and a control means responsive to the recording indicating signal for automatically causing the recording by the recording means of the current image obtainable from the first optical scanning and pickup means.

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-*End Examiner's Amendment*****

REASONS FOR ALLOWANCE

Continued Examination Under 37 CFR 1.114

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

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Amendment

The Amendment, filed June 15, 2006, has been received and made of record. In response to the most recent Office Action, dated December 15, 2005, claims 23-26, 36-40, and 42-43 have been amended. Claims 44-51 have been added. Claims 1-22 and
20 27-35 have been previously cancelled.

Response to Amendment

Regarding amended claim 42, Applicant has amended the claim to change dependency from claim 36 to claim 40. This corrects the previously identified inconsistencies, and therefore the objection to claim 42 is hereby withdrawn.

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Response to Arguments

Applicant's arguments with respect to claims 23-26 and 36-42 have been considered, but are moot in view of amendment

Allowable Subject Matter

10 **Claims 23-26 and 36-51** are allowed.

The following is an examiner's statement of reasons for allowance:

15 Regarding independent claims 23, 36, and 40, as well as all claims dependent therefrom, the prior art is not found to teach or fairly suggest, an image input apparatus comprising or a method comprising the steps which employ a first image pickup unit configured to optically scan a subject and thereby to acquire an image of the subject, a recording unit configured to record a series of overlapped partial images selectively acquired by the first image pickup unit, a second image pickup unit configured to continuously pick up a secondary image of the subject that corresponds with a portion of the subject being scanned by the first pickup unit, an overlapping amount calculating unit configured to calculate an amount of overlap between images corresponding to potentially recordable partial images being acquired by said first image pickup unit based upon the secondary image picked up by the second image pickup unit, an image

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recording determination unit configured to output a recording indicating signal when a current partial image obtained from the first image pickup unit is to be recorded as one of the series of overlapped partial images based upon an amount of overlap calculated by the overlapping amount calculating unit, and a control unit configured to be

5 responsive to the recording indicating signal to automatically cause the recording by the recording unit of the current image obtainable from the first image pickup unit recording unit.

Regarding independent claims 24, 39, and 43, as well as all claims dependent therefrom, the prior art is not found to teach or fairly suggest, in combination with the
10 existing elements of the present claim as currently amended, counting the time elapsed since a partial image was taken, in order to determine whether the next partial image can be recorded.

Any comments considered necessary by applicant must be submitted no later
15 than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact

20 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 571-272-7318. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen T. Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

- 5 Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic
- 10 Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2622

15 Gcv2



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SUPERVISORY PATENT EXAMINER